

Attorney Docket No. 000730C1

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REMARKS

Claims 1-84 are pending in the present application. No claims have been added, amended, or canceled herein, accordingly, following the entry of the present paper claims 1-84 will be pending in the instant application. Reconsideration of the application is respectfully requested in view of the following remarks.

The 35 U.S.C. § 103 rejections

The Examiner continues the rejection of claims 1-3, 5-17, 20-29, 31, 34-39, 43-61, 65-68, 71-75, and 79-84 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,640,452 to Murphy (hereinafter referred to as "Murphy") in view of Japanese Patent No. JP09218038A to Timo et al. (hereinafter referred to as "Timo"). The applicant respectfully traverses the rejection.

Independent claim 1 is directed to a method for satellite positioning system (SPS) signal processing and recites a combination of elements, including, (a) receiving at an SPS receiver one or more SPS signals; (b) removing pseudorandom noise from said one or more SPS signals to provide a first portion of a narrowband signal and a second portion of a narrowband signal; and (c) combining said first portion with common information in said second portion to improve the sensitivity of the SPS receiver; wherein said common information comprises data that is either repeated in time within the same received SPS signal or that is concurrently contained in more than one of the received SPS signals. The Applicant continues to respectfully submit that the Examiner has not established *prima facie* obviousness.

With respect to the cited references, Murphy is directed to a decryption chip that is used for decrypting an encrypted signal. The encrypted signal may include any data that is desired to be protected from unauthorized reception, and Murphy discloses that a significant problem with such decryption chips is cloning of the chip, thus allowing unauthorized parties to receive and decrypt the signals. In order to reduce piracy from cloned decryption chips, Murphy discloses the incorporation of a satellite positioning system (SPS) in a decryption module, with the decryption chip being disabled in the event that the SPS indicates that the chip is not within a predefined radius of an expected location. For example, a licensed site may be authorized to receive and decrypt an encrypted signal, and the location of the site is programmed into the decryption chip. In the event that the chip is not within a preset radius of the site location, the chip is deactivated and the encrypted signal is not able to be decrypted. Thus, the SPS is used to reduce piracy

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resulting from cloned decryption chips. With respect to processing of SPS signals, Murphy discloses only the well known signals transmitted by satellites in SPS systems, and processing of such signals to determine position of the decryption module. Once the location of the decryption module is determined, this position is compared to an expected position, and the decryption chip is enabled or disabled based on the comparison.

Importantly, at no point does Murphy disclose processing SPS signals to obtain a first portion of a narrowband signal and a second portion of a narrowband signal, and combining said first portion with common information in said second portion to improve the sensitivity of the SPS receiver; wherein said common information comprises data that is either repeated in time within the same received SPS signal or that is concurrently contained in more than one of the received SPS signals, as required by claim 1.

Timo does not correct the deficiencies of Murphy. Timo, discloses a surveying system that relies on multiple SPS receivers to more accurately determine the location of surveying marks. A reference receiver is placed at a known fixed coordinate position, and positional coordinates of the reference receiver are used to assist with the determination of positional information of a mobile receiver. As mentioned on the second page of the Timo abstract, enhanced accuracy is achieved through differential positioning. Differential positioning is accomplished by comparing a position determined by satellite signals received at the reference receiver with the known position of the reference receiver. A processor then determines difference signals between the expected SPS based on the known position and the SPS signals actually receive. The difference signals are provided to the mobile receiver to reduce position inaccuracies in the mobile receiver. Thus, Timo uses the known position of a reference receiver to determine a correction for a mobile receiver. Applicant respectfully submits that Timo contains no disclosure of removing pseudorandom noise from said one or more SPS signals to provide a first portion of a narrowband signal and a second portion of a narrowband signal; and combining said first portion with common information in said second portion to improve the sensitivity of the SPS receiver; wherein said common information comprises data that is either repeated in time within the same received SPS signal or that is concurrently contained in more than one of the received SPS signals.

The Examiner asserts at paragraph 12 of the Office Action that Timo discloses common information in the form of a predetermined survey mark and predetermined positional

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coordinates of the mobile receiver and processor. Applicant respectfully submits that, even if such information is used in position determination, such information is different than common information as claimed. As discussed above, claim 1 requires "removing pseudorandom noise from said one or more SPS signals to provide a first portion of a narrowband signal and a second portion of a narrowband signal; and combining said first portion with common information in said second portion to improve the sensitivity of the SPS receiver; *wherein said common information comprises data that is either repeated in time within the same received SPS signal or that is concurrently contained in more than one of the received SPS signals*" (emphasis added). Timo contains no disclosure of such common information.

It is thus submitted that the cited references, taken alone or in combination, are devoid of any teaching of combining common information from different portions of a (narrowband) signal to improve the sensitivity of an SPS receiver, wherein the common information comprises data that is either repeated in time within the same received SPS signal or that is concurrently contained in more than one of the received SPS signals. Therefore, it is submitted that independent claim 1 is allowable for at least the reason that the cited references, taken alone or in combination, fail to describe common information, or combining common information to improve sensitivity of an SPS receiver, as claimed.

Independent claims 16, 29, 43, 61, 66, 68, and 75 contain similar limitations as described with respect to claim 1, and it is submitted that these claims are also allowable for at least the same reasons as described with respect to claim 1. Dependent claims 2-3, 5, 15, 17, 20-28, 31, 34-39, 44-60, 65, 67, 71-74, and 79-84 are similarly allowable at least because these claims contain the elements of respective independent claims from which they depend. These dependent claims may include one or more independent bases for patentability, and the right to assert any such basis in the future is reserved. Applicant therefore respectfully requests that the rejections of claims 1-3, 5-17, 20-29, 31, 34-39, 43-61, 65-68, 71-75, and 79-84 be reconsidered and withdrawn.

The Examiner has rejected claims 1-3, 5-17, 20-29, 31, 34-39, 43-61, 65-68, 71-75, and 79-84 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,963,582 to Stansell, Jr. or U.S. Patent No. 6,160,841 to Stansell, Jr. et al. in view of Timo. The applicant respectfully traverses the rejection. Applicant notes that the Examiner asserts that Stansell Jr. or

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Stansell Jr. et al. disclose all of the subject matter claimed except for common information, and the Examiner then cites Timo as disclosing such common information. Applicant submits that the Examiner has not established *prime facie* obviousness for similar reasons as discussed above. Specifically, as described above, Timo is devoid of any disclosure related to common information as claimed. Stansell, Jr. or Stansell Jr. et al. are also devoid of any such disclosure, and do not cure this deficiency of Timo. Accordingly it is submitted that these claims are allowable for at least similar reasons as described above.

The Examiner has rejected claims 4, 18, 30, 31, 33, 40-41, 62-63, 69-70, 76, and 77-78 under 35 U.S.C. § 103(a) as being unpatentable over Murphy, Stansell, Jr. or Stansell, Jr. et al. in view of Timo and further in view of U.S. Patent No. 6,108,317 to Jones et al. The applicant respectfully traverses the rejection.

Each of these claims depends (directly or indirectly) from independent claims discussed above. As discussed above, the respective independent claims are allowable because the cited references, alone or in combination, fail to teach or suggest all of the claim elements as set forth above. In particular, none of the references, taken alone or in combination, teach or suggest combining a first portion or set of a narrowband signal with common information in a second portion or set to improve the sensitivity of an SPS receiver; wherein the common information comprises data that is either repeated in time within the same received SPS signal or that is concurrently contained in more than one of the received SPS signals. In fact, no common information as claimed is combined in any of the cited references, and no SPS receiver sensitivity is improved based on such combining. Therefore, it is submitted that dependent claims 4, 18, 30, 31, 33, 40-41, 62-63, 69-70, 76, and 77-78, are allowable for at least the same reasons as discussed with respect to the associated independent claims. These claims may include one or more independent bases for patentability, and the right to assert any such basis in the future is reserved. Therefore, applicant respectfully requests that the rejections of claims 4, 18, 30, 31, 33, 40-41, 62-63, 69-70, 76, and 77-78 be reconsidered and withdrawn.

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The double patenting rejections

The Examiner has rejected claims 1-84 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent No. 5,812,087 in view of Murphy. Applicant respectfully traverses the rejection. Similarly as described above, it is submitted that neither of the references teach or suggest common information, or the use of such common information, from narrowband signals as claimed. To the extent that any judicially created double patenting rejection remains, a terminal disclaimer will be submitted upon the indication of allowable subject matter to overcome this rejection.

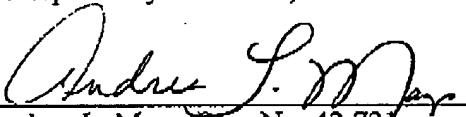
CONCLUSION

Applicant respectfully requests that the Examiner reconsider the outstanding rejections and that these rejections be withdrawn. It is believed that a complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of the application, the Examiner is invited to telephone the undersigned at the number provided. Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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